

PEER DATA PROTOCOL

ABSTRACT

A Peer Data Protocol (PDP)(10) for securely storing a data object (20) on a peer-to-peer network (50) of nodes (14). An owning node (16) owns the data object (20), possessing nodes hold the data object (20), an indexing node (68) facilitates overall operation of the PDP (10), and a backup node (66) may optionally be provided to ensure that the data object (20) is available even when the possessing nodes (18) holding it are not. The possessing nodes (18) securely store the data object (20) remote from its owning node (16), yet themselves have no access to the contents of the data object (20) unless granted such by the owning node (16). To enhance the security of this scheme the possessing nodes (18) may be chosen from among a large pool of neighbor nodes (56), the data object (20) may be piece-wise stored across multiple of the possessing nodes (18), and the pieces may be share-wise stored across multiple of the possessing nodes (18) and analyzed for integrity before later use.